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TITLE: HEAVY OIL REFORMING METHOD, AN APPARATUS THEREFOR,  
AND GAS TURBINE POWER GENERATION SYSTEM

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ABSTRACT:

PROBLEM TO BE SOLVED: To provide a heavy oil reforming method which reforms a heavy oil to give a fuel suitable for a gas turbine, eliminates sulfur and vanadium, i.e., harmful components, from a heavy oil, and enables almost all the hydrocarbons in the heavy oil to be used in gas turbine combustion; an apparatus therefor; and a gas turbine power generation system using the reformed heavy oil as fuel.

SOLUTION: This method comprises reacting a heavy oil with supercritical water and then with a scavenger for sulfur and vanadium to eliminate sulfur and vanadium from the heavy oil. The apparatus for reforming an E heavy oil is equipped with a reactor 4 for reacting a heavy oil 3 with supercritical water 2, a scavenging apparatus 6 filled with a scavenger 7 for scavenging sulfur and vanadium in the heavy oil, and a connecting pipe 5 for connecting the reactor and the scavenging apparatus. The gas turbine system has a burner for burning a heavy oil reformed with the reforming apparatus and a gas turbine driven by a combustion gas generated by the burner.

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